Math 9 Assignment #9 Due Date: \_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_

Mark \_\_\_\_\_\_ / 36

**Directions**: All questions must be completed on loose leaf. A calculator is allowed. Please reduce any fractions to lowest terms. Place a box around your final answer. **ALL WORK MUST BE SHOWN FOR FULL VALUE.**

**Part A: Please answer all questions. /12**

1. Evaluate: 2 marks



1. Solve the following equations: **(a & b – 1 mark each, c & d – 2 marks each)**

a) 12m – 11 = -6m – 13 b) -3(x – 2) = -(2x + 10)

c)  d) 

1. Solve the following inequality: 2 marks



1. Solve the inequality (1 mark) AND graph the solution (1 mark):

-30 + 3b < 3(8 + 4b)

**Part B: Please answer all questions. 3 marks each /12**

1. The difference between the length and the width of a rectangle is 6 cm. The perimeter of the rectangle is the same as that of a square with sides of 7 cm. What are the dimensions of the rectangle?
2. Solve the following equation for the unknown variable x. Show your work.

2(2x + 1) – 4(x + 4) = -1(x + 4) + 9

1. Your class is planning a trip to the zoo. The school will have to pay $200 for the bus plus $5 per student.
2. Write a linear equation to determine the cost of the trip.
3. How much will it cost for 42 students?
4. The trip budget is $600. How many students can go on the trip?
5. Write a linear equation to represent the pattern in the given table of values. Describe a context for the equation.

|  |  |
| --- | --- |
| x | y |
| 1 | 10.50 |
| 2 | 11.00 |
| 3 | 11.50 |
| 4 | 12.00 |

**Part C: Complete question 1 and choose any 2 of the remaining 3 questions.**

**4 marks each /12**

1. Solve:



(Leave answer in fraction form)

1. If a rectangle has dimensions of (x - 2) and (3x – 4), find the area’s numerical value if the rectangle has a given perimeter of 44.
2. Given the following graph describe the pattern and write the equation. Describe a situation that could result in the graph.
3. You have just purchased a new cell phone. The phone plan costs $10 per month and $0.10 per text message.
4. Write a linear equation that represents this situation.
5. Create a graph to represent the situation.
6. Estimate the cost of sending 100 text messages using the graph.
7. If you have $30, how many text messages can you send?